Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (original) A polypeptide having a sequence corresponding to the sequence of a portion of a chemokine receptor and capable of inhibiting the fusion of HIV-1 to $CD4^+$ cells and thus of inhibiting HIV-1 infection of the cells.

2-5. (canceled)

6. (original) A polypeptide having a sequence corresponding to that of a portion of a HIV-1 envelope glycoprotein capable of specifically binding to the chemokine receptor CCR5.

7. (canceled)

8. (original) A pharmaceutical composition comprising an effective amount of the polypeptide of claim 6 effective to inhibit the fusion of HIV-1 to $CD4^+$ cells and a pharmaceutically acceptable carrier.

9. (currently amended) An antibody or a portion of an antibody capable of binding to a CCR5 chemokine receptor on a $CD4^+$ cell and inhibiting HIV-1 infection of the cell.

10. (canceled)

11. (original) A method of treating an HIV-1 infected subject which comprises administering to the subject the polypeptide of claim 1 in an amount effective to inhibit the fusion of HIV-1 to $CD4^+$ cells of the subject and thus treat the subject.

12. (canceled)

13. (original) A method for inhibiting HIV-1 infection of $CD4^+$ cells which comprises contacting such $CD4^+$ cells with a non-chemokine agent capable of binding to the chemokine receptor CCR5 in an amount and under conditions such that fusion of HIV-1 to the $CD4^+$ cells is inhibited, thereby inhibiting HIV-1 infection of the cells.

14-16. (canceled)

17. (original) A non-chemokine agent capable of binding to the chemokine receptor CCR5 and inhibiting the fusion of HIV-1 to $CD4^+$ cells.

18. (canceled)

19. (original) A molecule capable of binding to the chemokine receptor CCR5 and inhibiting fusion of HIV-1 to $CD4^+$ cells comprising a non-chemokine agent linked to a ligand capable of binding to a cell surface receptor of the $CD4^+$ cells other than the chemokine receptor such that the binding of the non-chemokine agent to the chemokine receptor does not prevent the binding of the ligand to the other receptor.

20-21. (canceled)

22. (original) A molecule capable of binding to the chemokine receptor CCR5 and inhibiting fusion of HIV-1 to $CD4^+$ cells comprising a non-chemokine agent linked to a compound capable of increasing the *in vivo* half-life of the non-chemokine agent.

23-25. (canceled)

26. (original) A method for treating HIV-1 infection in a

subject comprising administering the pharmaceutical composition of claim 19 to the subject.

27. (original) A method for determining whether a non-chemokine agent is capable of inhibiting the fusion of HIV-1 to a $CD4^+$, $CCR5^+$ cell which comprises:

(a) contacting the $CD4^+$, $CCR5^+$ cell, after it is labeled with a first dye, with a cell expressing an appropriate HIV-1 envelope glycoprotein on its surface, and labeled with a second dye, in the presence of an excess of the agent under conditions permitting fusion of the $CD4^+$, $CCR5^+$ cell to the cell expressing the HIV-1 envelope glycoprotein on its surface in the absence of an agent known to inhibit fusion of HIV-1 to $CD4^+$, $CCR5^+$ cells, the first and second dyes being selected so as to allow resonance energy transfer between the dyes;

(b) exposing the product of step (a) to conditions which would result in resonance energy transfer if fusion has occurred; and

(c) determining whether there is resonance energy transfer, the absence or reduction of transfer indicating that the agent is capable of inhibiting fusion of HIV-1 to $CD4^+$ and $CCR5^+$ cells.

28-30. (canceled)

31. (original) A transgenic nonhuman animal which comprises an isolated DNA molecule encoding the chemokine receptor CCR5.

32-35. (canceled)

36. (original) An agent capable of inhibiting HIV-1 infection and capable of binding to a chemokine receptor without substantially affecting the said chemokine receptor's capability to bind to chemokines.

37-42. (canceled)

43. (original) A method for inhibiting HIV-1 infection of $CD4^+$ cells which comprises contacting such $CD4^+$ cells with an agent capable of inhibiting HIV-1 infection and capable of binding to a chemokine receptor without substantially affecting the said chemokine receptor's capability to bind to chemokines.

44-48. (canceled)